

Fig. 1

FIG. 2

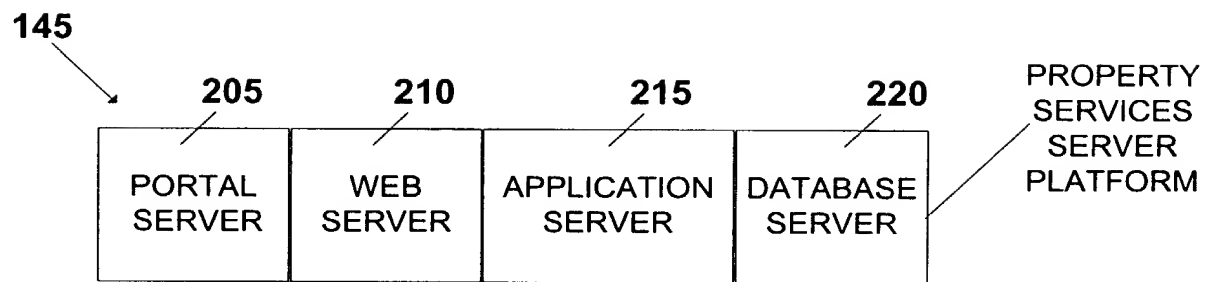


FIG. 3

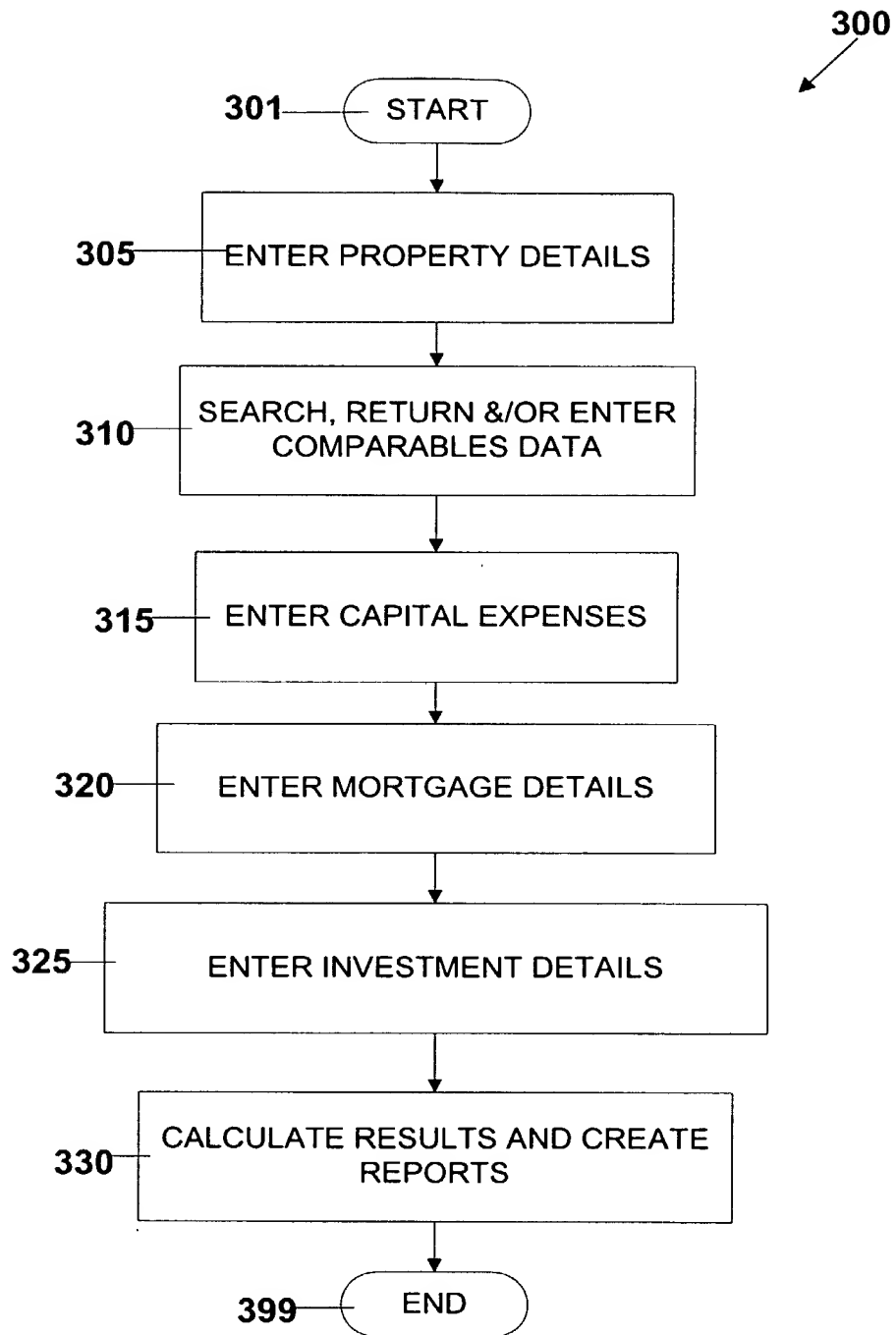


FIG. 4

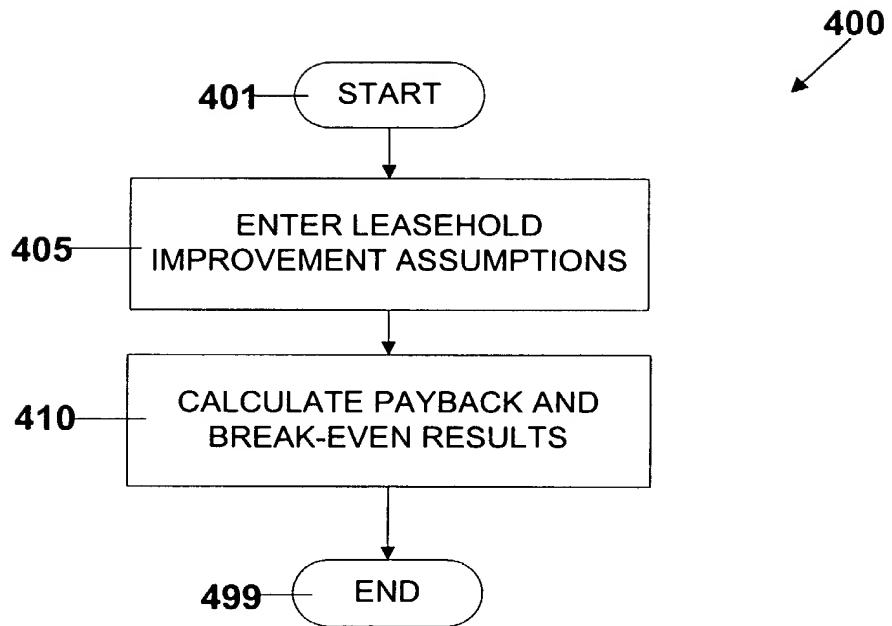


FIG. 5

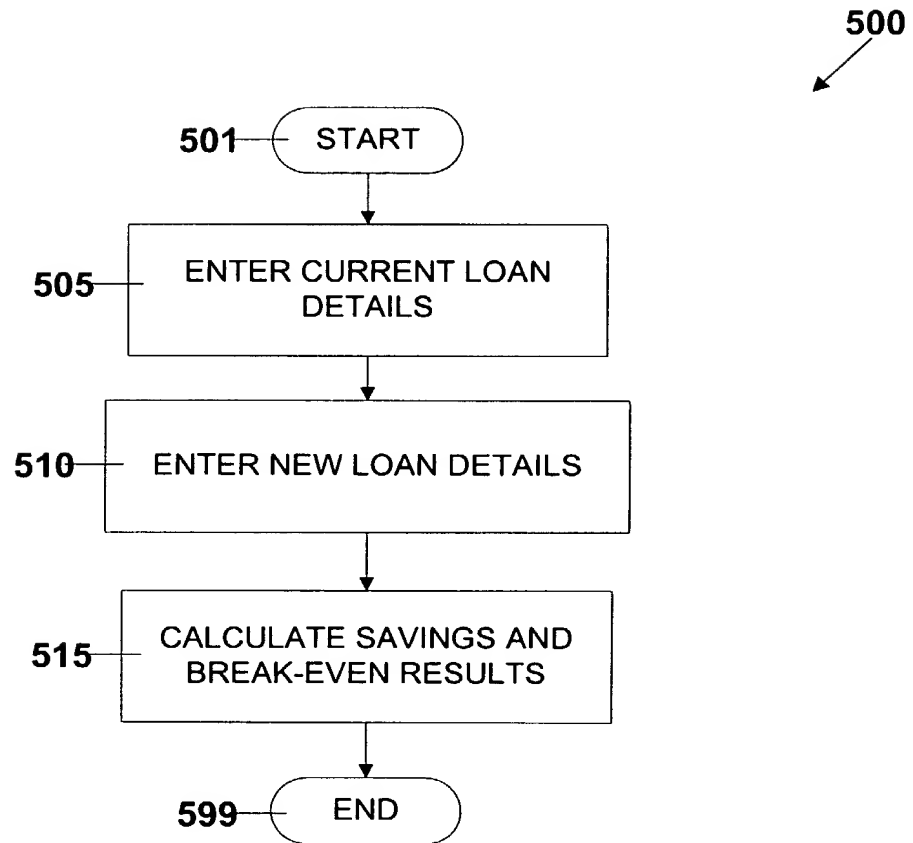


FIG. 6

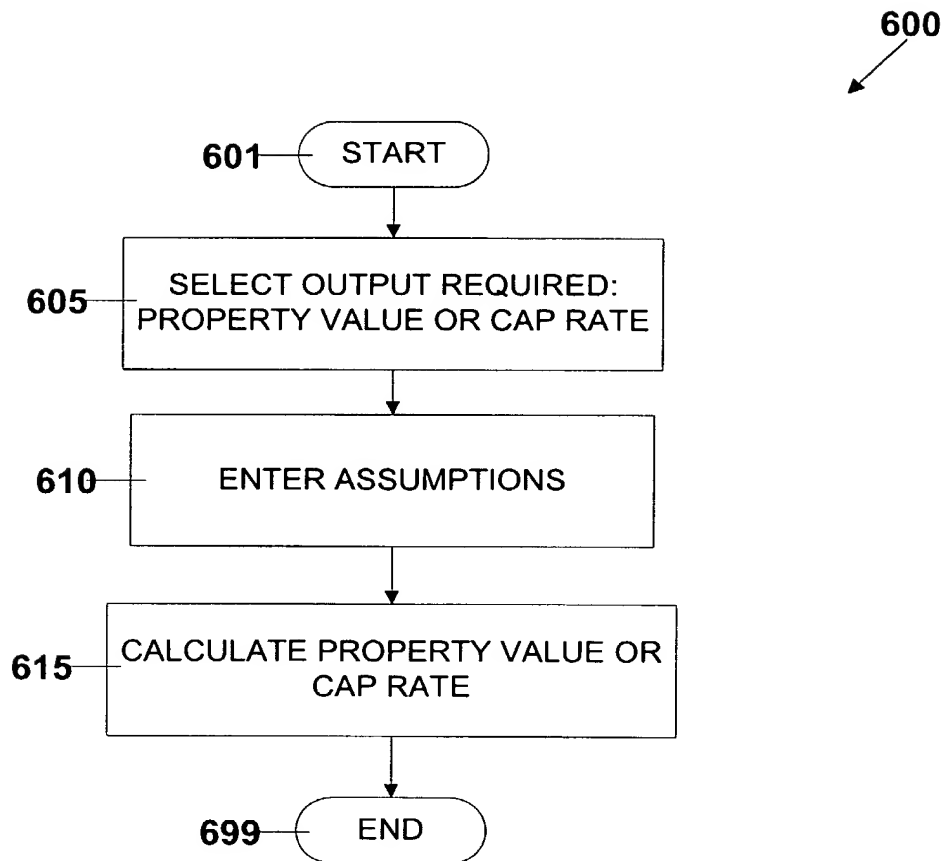


FIG. 7

700

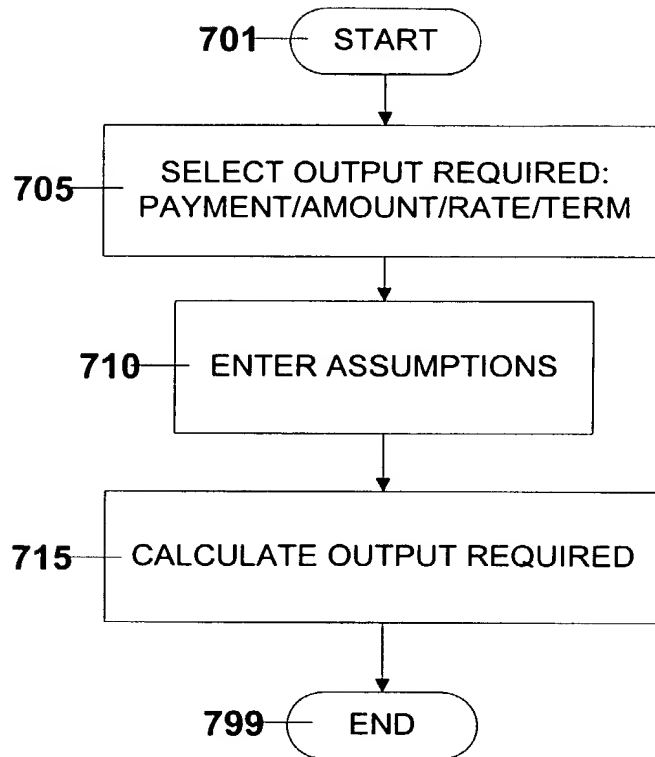


FIG. 8

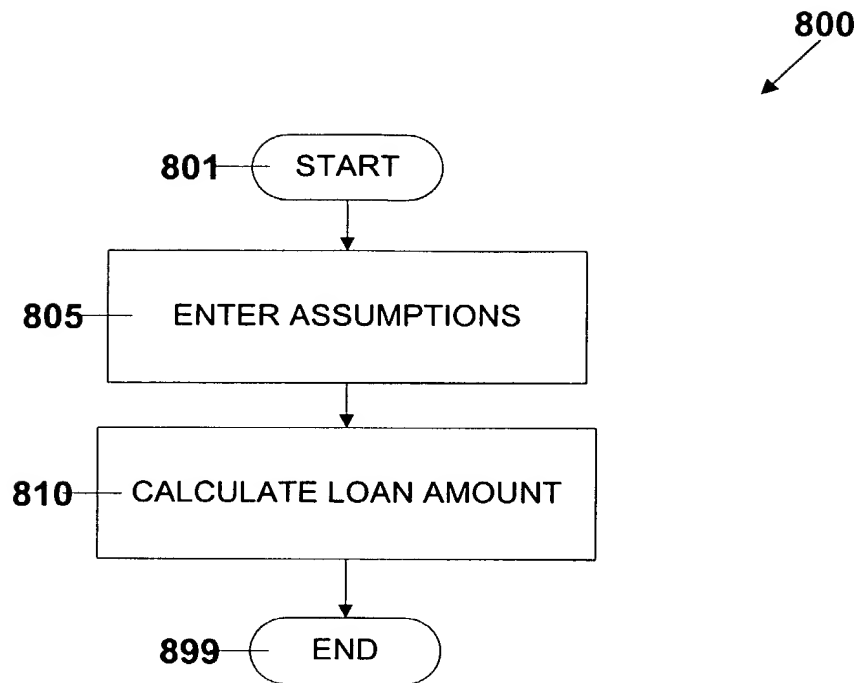


FIG. 9

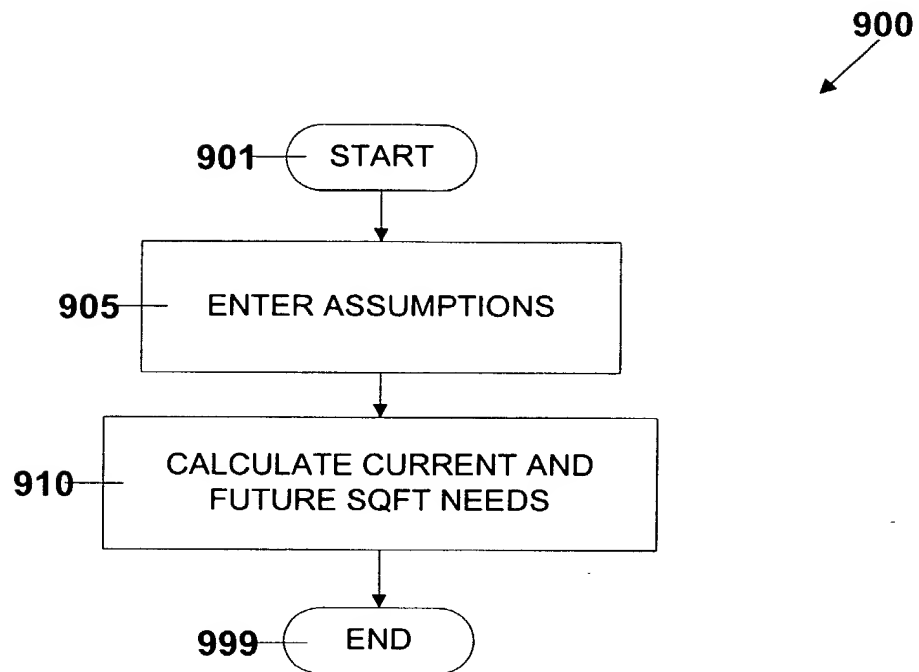


FIG. 10

1000



FIG. 11

1100

1105

1110

1115

1120

1125

1130

1135

1140

1145

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my realworkspace
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my market track
my tools
my resources
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My Research
 Addison Office Market Submarket Economics 4/17/00
 James Mall Market Submarket Economics 4/17/00
 Smith Warehouse Market Submarket Economics 4/13/00
 Request a Report... Manage Reports...

Dates
 Willow Run - Scene 1 Valuation 4/15
 Willow Run - Scene 2 Valuation 4/21

My MarketTracker

	Past Vac Rate	Curr Vac Rate
NY Office	10%	9%
Stamford Retail	8%	6%
NY Apts	7%	7%
Boston Office	5%	7%
Boston Office	8%	8%

My Economic Indicator/Rates

Fed Funds	5.81	↑	+0.02
3-M Libor	6.28	↑	+80.02
Prime	9.00	↑	+144.02
DJIA	11287.08	↑	+100.60
NASDAQ	4055.90	↓	-132.30
S&P 500	1500.59	↓	-3.87
30-YR	5.77	↑	+0.08

My Real Estate News

Local Real Estate News
 • NAR aims for higher profile
 • Long-term rates on rise
 • Deals of the Day
 more...

Topical Real Estate News
 • Graceful living for hipsters
 • HUD's help
 • HQMS drops again
 more...

Property Type Real Estate News
 • Pivotal and Heller Financial Agree to Jointly
 Develop a B2B Financial Services Web Exchange
 • Sonv Financial Services Launches Consumer

My Community

• NAIOP
 • MBA - Washington Chapter

My Tools

• Valuation
 • Prepayment Calculator
 Try the other business tools.

My Resources

• Real Estate Forum
 • ULI
 • Tax Records
 • Get Map
 • Get Directions
 • Get Listings
 Give us Feedback on new resources to add.

My Stock Portfolio

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 Create Portfolio

Stock Symbols
 Company Name
 GE
 Quotes and News

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Financing Program
 • Heller Financial, Inc. Promotes David Canet to
 Regional Manager
 <Update profile>
 more...

My Mortgage Spreads

Collateral Type	Min DSC	Max LTV	Spread	Spread 5yr
• Multifamily	1.2	70	230	8.5
• Office	1.1	80	250	9.2
• Retail	1.2	75	250	9.2

Want more information, try our loan center

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v2.1 Last updated 9/21/2000

FIG. 12

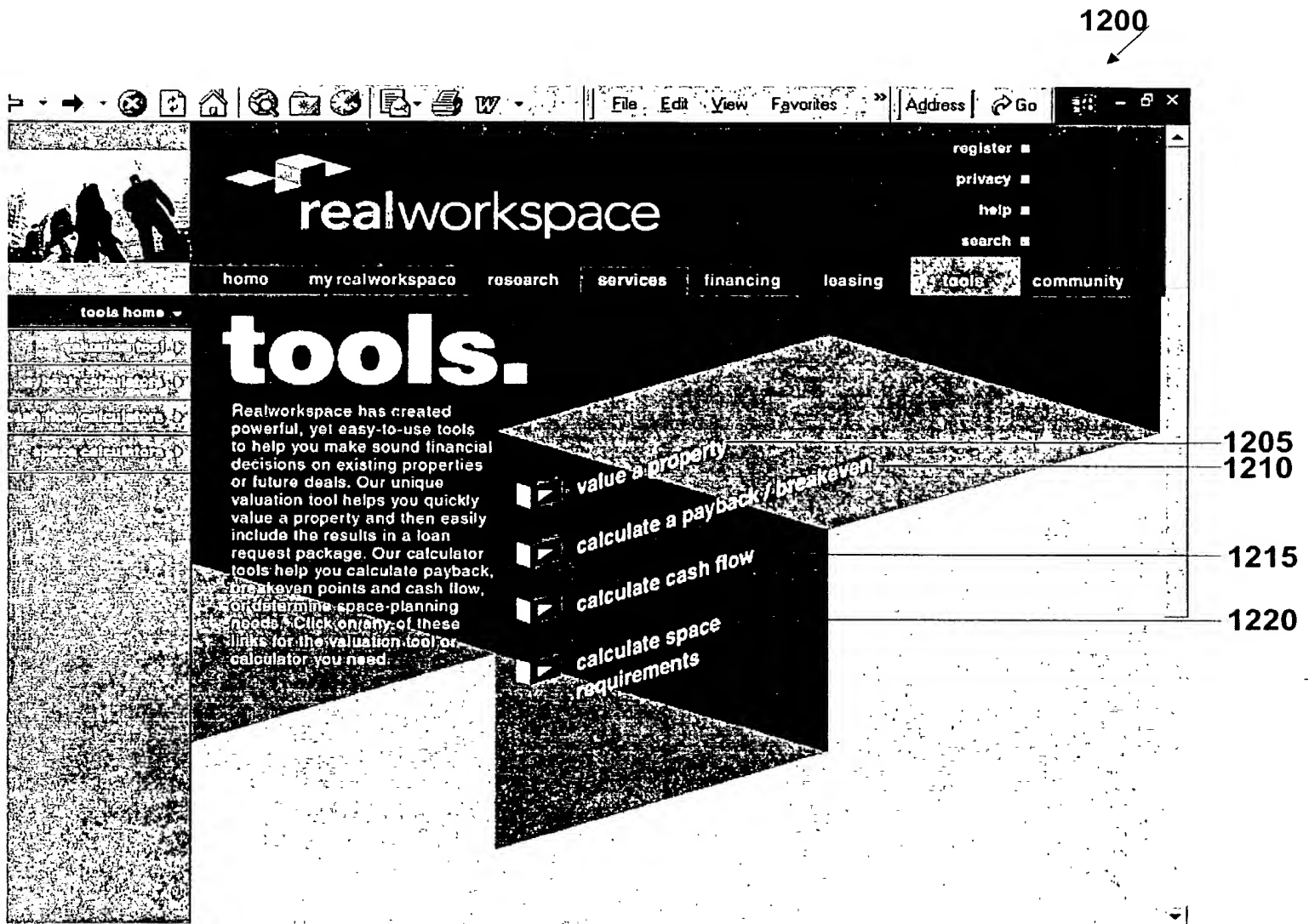


FIG. 13

1300

payback calculators

To help you quickly calculate payback on a property, Realworkspace has provided the following payback calculators. Explore various scenarios in real time by changing the data you enter. Click on a link below for the calculator you need.

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leasehold improvements payback calculator

Use the Leasehold Improvement Payback Calculator to calculate your payback and the breakeven points of making capital improvements to a property.

■ [Leasehold Improvement Payback Calculator](#)

refinance / breakeven calculator

Calculate the savings and breakeven point when refinancing with the Refinance / Breakeven Calculator.

■ [Refinance / Breakeven Calculator](#)

direct capitalization calculator

Use the Direct Capitalization Calculator to determine the value of a property based on its income and a given capitalization rate - or determine the capitalization rate based on its income and a given sales price.

■ [Direct Capitalization Calculator](#)

1305

1310

1315

FIG. 14

1400

The image is a screenshot of a web browser displaying the Realworkspace website. At the top, there is a browser toolbar with icons for back, forward, home, and search, along with a menu bar containing File, Edit, View, and Favorites. The website header features the Realworkspace logo and a navigation menu with links: home, my realworkspaco, research, services, financing, leasing, tools, and community. A search bar is also present. On the left side, there is a vertical sidebar with a list of links, including 'cash flow calculators' and 'mortgage calculator'. The main content area is titled 'cash flow calculators' and contains a paragraph explaining the calculators. Below this, there are two sections: 'mortgage calculator' and 'affordability calculator', each with a brief description and a link to the respective calculator. The sidebar on the left has two labels, 1405 and 1410, pointing to specific links. The label 1400 points to the top right corner of the browser window.

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search ■

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cash flow calculators

To help you calculate cash flow on a property, Realworkspace has created the following mortgage and affordability calculators. Explore various scenarios in real-time by changing the data you enter. Click on a link below for the calculator you need.

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mortgage calculator

The Mortgage Calculator will help you quickly calculate mortgage payments on a fixed or variable commercial loan, as well as the principal and interest payments over the term of a loan.

■ [Mortgage Calculator](#)

affordability calculator

The Affordability Calculator will help you determine the size of the commercial real estate loan you can afford by calculating the loan amount based on Net Operating Income (NOI) and basic underwriting criteria.

■ [Affordability Calculator](#)

1405

1410

FIG. 15a

15a00

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valuation tool ▼

valuation tool

Begin by indicating if you will be purchasing, selling or refinancing this property. Then select the level of detail you wish to receive based on the amount of information you have.

Before you begin, you will need the following information to value the property:

- zip code
- property type
- square footage
- expenses
- capital expenditures

If you currently have a mortgage on the property, please have the mortgage terms available.

value property

I want to:

- ☐ modify an existing property valuation
- ☒ value a new property

The level of detail I need is:

- ☒ quick
- ☐ basic
- ☐ detailed

continue

15a05

15a10

15a15

FIG. 15b

15b00

The screenshot displays the Realworkspace website. At the top is a browser window with a menu bar (File, Edit, View, Favorites) and an address bar. Below the browser is the website's header, which includes the Realworkspace logo and a navigation menu with links: home, my realworkspaco, research, services, financing, leasing, tools, and community. On the right side of the header are links for register, privacy, help, and search. A sidebar on the left contains a 'valuation tool' dropdown menu. The main content area is titled 'modifying an existing valuation' and contains the text: 'Existing valuations can be selected for modification, or, if you want to keep multiple versions of a valuation, use the copy function to start a new version.' Below this text is a table with the following columns: Action, Property Number, Property Name, Property Address, Property Type, Version, and Last Update. A 'select a valuation' link is positioned to the right of the table. At the bottom right of the main content area is a 'back' link. The footer of the page states: 'Copyright © 2000 by Realworkspace, LLC. All rights reserved.'

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valuation tool

modifying an existing valuation

Existing valuations can be selected for modification, or, if you want to keep multiple versions of a valuation, use the copy function to start a new version.

select a valuation

Action	Property Number	Property Name	Property Address	Property Type	Version	Last Update
--------	-----------------	---------------	------------------	---------------	---------	-------------

back

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FIG. 15c

15c00

Realworkspace

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search

step 1 for a property valuation

Start our easy 6-step valuation process by entering the property details below. When you click on "continue," your entries will be saved and you'll be taken to the next step in the process. Click on "previous page" to return to the previous step, the information you've entered on the present page will be retained. At any time during the valuation process, click on "save" to save your work. Resume your property valuation later without losing any of your data.

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1 property details 2 operating data 3 capital expenses 4 mortgage 5 investment 6 valuation outputs

enter property details

* Indicates a required field

Valuation Description

Valuation Purpose:

- ☒ I am valuing a property that I want to purchase
- ☐ I am valuing a property that I want to sell
- ☐ I am financing or refinancing a property I currently own

* Version: * Holding Period:

Property Type

* Property Type: * Property Subtype:

Building Class:

Property Name and Address

Property Number:

* Property Name:

Address Line 1:

Address Line 2:

City:

State:

* Zip Code:

Metro Area:

Property Details

Year Built: Year Renovated:

Gross Square Footage: * Rentable Square Footage:

Number of Tenants:

back save continue

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15c05

15c10

15c15

15c25

15c20

15c30

15c35

15c40

FIG. 15d

15d00

5d05
5d10
5d15
5d20
5d25

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[valuation tool](#)

step 2 for a property valuation

In this step of the valuation process, enter operating income and expense data below. The will provide you with market information. Click ▶ to go to a more detailed level, and click ▼ to go to a more summarized level. Remember, you can click on "save" to save your work at any time.

1 property details
2 **operating data**
3 capital expenses
4 mortgage
5 investment
6 valuation outputs

enter operating data

Default Annual Growth Rate:

Line Item	%	\$	\$ per SF/Unit	Growth
▶ Potential Gross Income		<input type="text" value="\$4,075,000.00"/>	<input type="text" value="\$185.23"/>	<input type="text" value="0.00%"/>
Less Vacancy and Credit Loss	<input type="text" value="5.00%"/>	<input type="text" value="\$203,750.00"/>	<input type="text" value="\$9.26"/>	<input type="text" value="0.00%"/>
Effective Gross Income		<input type="text" value="\$3,871,250.00"/>	<input type="text" value="\$175.97"/>	
▶ Operating Expenses		<input type="text" value="\$1,650,000.00"/>	<input type="text" value="\$75.00"/>	<input type="text" value="0.00%"/>
Net Operating Income		<input type="text" value="\$2,221,250.00"/>	<input type="text" value="\$100.97"/>	

back save continue

FIG. 15e

15e00

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valuation tool

step 3 for a property valuation

In this step, enter any capital expenses such as a leasing commission, tenant improvements, or capital reserves. Click on "save" to save your work.

1 property details 2 operating data 3 **capital expenses** 4 mortgage 5 investment 6 valuation outputs

enter capital expenses

• Indicates a required field

We can estimate tenant improvements and leasing commissions using one of three methods:

☒ Quick ☐ Basic ☐ Detail

15e05 — Tenant Improvements

	\$	\$ per SF/Unit
Average Tenant Improvements per Year:	<input type="text" value="\$600,000.00"/>	<input type="text" value="\$27.27"/>

15e10 — Leasing Commissions

Average Leasing Commissions per Year:	<input type="text" value="\$150,000.00"/>	<input type="text" value="\$6.82"/>
---------------------------------------	---	-------------------------------------

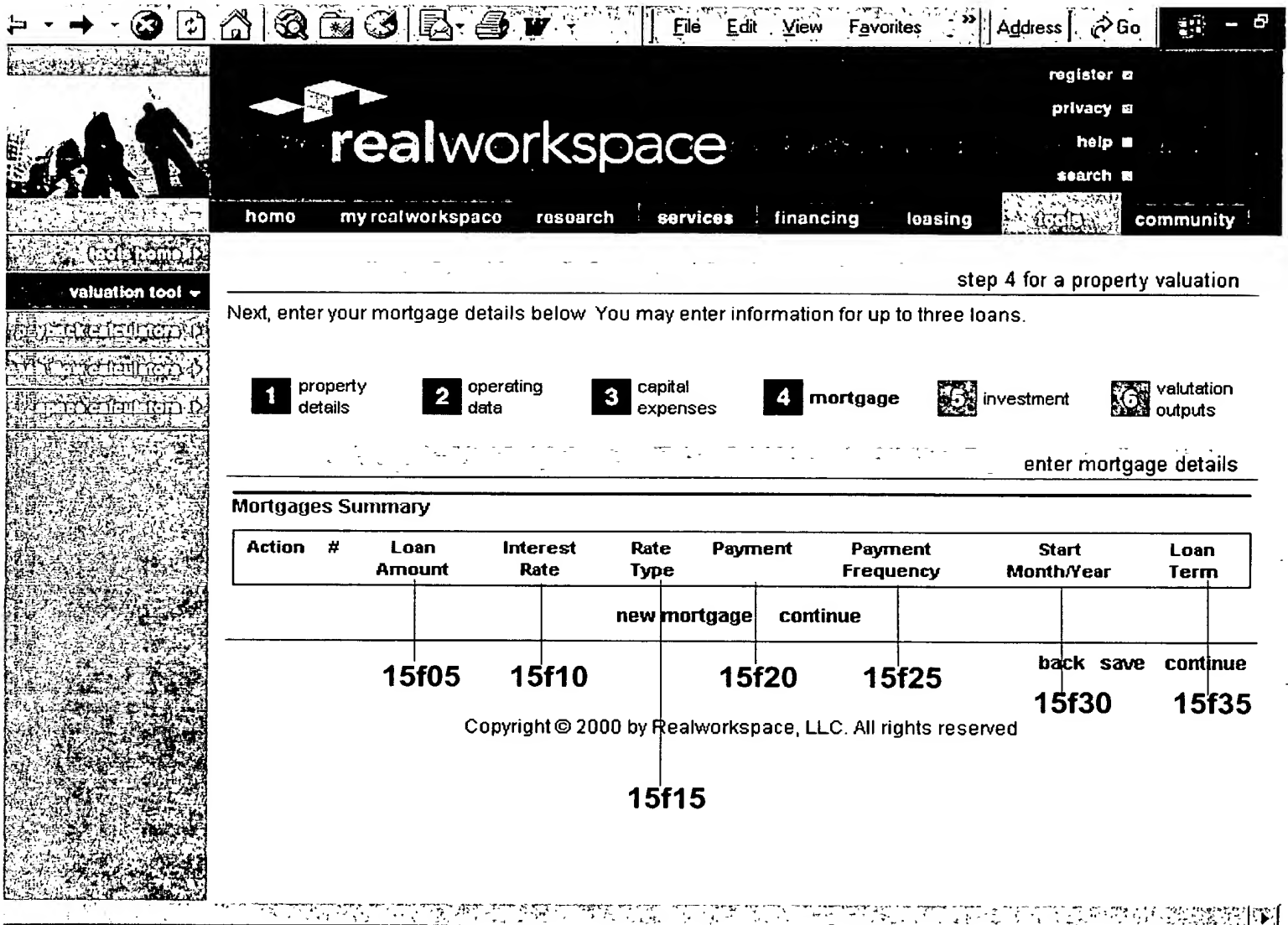
15e15 — Capital Reserves

Average Capital Reserves per Year:	<input type="text" value="\$50,000.00"/>	<input type="text" value="\$2.27"/>
------------------------------------	--	-------------------------------------

back save continue

FIG. 15f

15f00



The screenshot shows a web browser window with the Realworkspace website. The browser's address bar shows "15f00". The website has a navigation bar with links: home, my realworkspace, research, services, financing, leasing, 15f00 (highlighted), and community. A sidebar on the left contains a "valuation tool" dropdown menu. The main content area is titled "step 4 for a property valuation" and instructs the user to "Next, enter your mortgage details below. You may enter information for up to three loans." Below this is a progress bar with six steps: 1. property details, 2. operating data, 3. capital expenses, 4. mortgage (highlighted), 5. investment, and 6. valuation outputs. The "enter mortgage details" section contains a "Mortgages Summary" table with columns for Action #, Loan Amount, Interest Rate, Rate Type, Payment, Payment Frequency, Start Month/Year, and Loan Term. The table has two rows of data. The first row shows "15f05" for Loan Amount, "15f10" for Interest Rate, "new mortgage" for Rate Type, "15f20" for Payment, "15f25" for Payment Frequency, "back save" for Start Month/Year, and "continue" for Loan Term. The second row shows "15f30" for Loan Amount, "15f35" for Interest Rate, and "continue" for Loan Term. The copyright notice "Copyright © 2000 by Realworkspace, LLC. All rights reserved." is at the bottom.

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 privacy ☐
 help ☐
 search ☐

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valuation tool ▾

step 4 for a property valuation

Next, enter your mortgage details below. You may enter information for up to three loans.

1 property details 2 operating data 3 capital expenses 4 **mortgage** 5 investment 6 valuation outputs

enter mortgage details

Action #	Loan Amount	Interest Rate	Rate Type	Payment	Payment Frequency	Start Month/Year	Loan Term
	15f05	15f10	new mortgage	15f20	15f25	back save	continue
						15f30	15f35

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15f15

FIG. 15g

15g00

File Edit View Favorites Address Go

In step five of the valuation process, enter information about your investment profile and your assumptions about the future sale of the property. Click to view market data.

1 property details **2** operating data **3** capital expenses **4** mortgage **5** investment **6** valuation outputs

enter investment profile

• Indicates a required field

15g05 Discount Rate

15g10 Discount Rate to Apply to Estimated Future Cash Flows:

15g15 Holding Period: **1 Years**

15g20 Purchase of Property

15g25 • Contract Purchase Price:

15g30 Transaction Costs as a Percent of Purchase Price:

15g35 Fees for Purchase:

15g40 Future Sale of Property

15g45 Transaction Costs as a Percent of Future Sale:

15g50 Fees for Future Sale:

15g55 You can estimate future value using one of these methods:

☒ Future Value of Asset at time of Sale •

☐ Annual Growth Rate from Original Purchase Price

☐ Capitalization Rate to Apply to Estimated Net Operating Income For the 1st Year After Sale

FIG. 15h

15h00

Navigation bar: File Edit View Favorites Address Go

Search bar

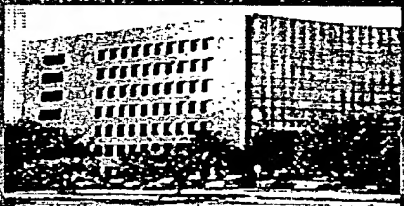
Navigation links: home my realworkspace research services financing leasing tools community

step 6 for a property valuation

Here is a summary of your inputs. Choose the reports you'd like to view. Once you've displayed the report, click on the "print" icon to print that report.

1 property details 2 operating data 3 capital expenses 4 mortgage 5 investment 6 valuation outputs

valuation report




Oracle Building
3 Bethesda Metro
Suite 400
Bethesda, MD 76080

Property At a Glance	
Property Type:	Office
Property Subtype:	Downtown
Building Class:	A
Year Built:	2000
Year Renovated:	
Gross Sq. Ft.:	25,000 SF
Rentable Sq. Ft. or Units:	22,000 SF
Number of Tenants:	10
Occupancy:	NAV
Top 3 Tenants:	NAV, NAV, NAV
Contract Purchase Price:	\$200,000
Price / Rentable SF:	\$9.09

Reports (PDF Format)

- [Summary of Inputs](#)
- [Cash Flow Projection and Ratio Analysis](#)
- [NPV / IRR / Asset Validation](#)
- [Proceeds from Sale](#)
- [Financing Table](#)
- [Sensitivity Chart](#)
- [All Reports](#)

Reports format requires Adobe Acrobat Reader. To download click the Adobe button



15h05

Based on the following assumptions run on 11-15-2000 02:55 PM date:

Generation 1 or 2 with third party

inputs (IPFMSIOPNAIOP)

FIG. 15h

(cont.)

15h00

15h10

Customer Inputs				Realworkspace Benchmark	
		\$\$	\$/sf	From (\$/sf)	To (\$/sf)
1	Effective Gross Income (Yr1)	\$3,871,250	\$175.97	\$9.73	\$5.31
2	Operating Expenses (Yr1)	\$1,850,000	\$75.00	\$5.08	\$9.25
3	Capital Expenditure (Yr1)	\$800,000	\$38.38	\$38.38	\$38.38
4	Net cash Flow Before debt Service	\$1,421,250	\$64.60	(\$31.71)	(\$40.30)
5	Discount Rate	5%			
6	Terminal Cap Rate	0.00%			
7	Direct Cap Rate	710.825%			
8	Purchase Price	\$200,000	\$9.09	\$9.09	\$9.09
9	Terminal Value	\$300,000	\$13.64	\$13.64	\$13.64
10	Loan to Value	0			
11	Sales per Unit (Apartments - only)				
12	Gross Rent Multiplier (Apartments - only)				
Present Value of R.E. Assets:		Net Cash Flow before Debt Service	\$1,605,952	(\$18.73)	(\$26.91)
		Net Operating Income (NOI)	\$2,367,857	\$15.90	\$7.72

15h15

Performance Ratio Summary				Realworkspace Benchmark	
	NPV	\$\$ per Square Foot	IRR	From (\$/sf)	To (\$/sf)
Net Cash Flow before Debt Service	\$1,375,952	\$73.00	633.15217%	(\$18.73)	(\$26.91)
Net Cash Flow after Debt Service	\$1,375,952	\$107.63	633.15217%	\$15.90	\$7.72
NOI Yield	NOI / Purchase Price	9.6576	9.6576	(Year1)	(Year1)
Levered Cash on Cash return	Cash Flow after ADS / Total Equity	6.1793	6.1793	-3.0335	-3.8551
Debt Service Coverage ratio	NOI / ADS	Infinite	NaN	Infinite	Infinite
	Net Cash Flow / ADS	Infinite	NaN	Infinite	Infinite
Loan to Value	Loan Amount / Property Value	0	0	0	0
Expense Ratio	Operating Expense / Potential Gross Income	0.4040	0.4040	0.5221	0.7539

15h20

FIG. 16a

16a00

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calculation graph explanation

The Leasehold Improvement Payback Calculator calculates the payback and breakeven points when you make capital improvements to a property. Start by filling in the information below, then click "calculate". If you have questions about this tool, click on the "explanation" tab above.

leasehold improvement payback calculator

16a05 What is the square footage for this lease?
10,000 SF

16a10 What is the average annual base rental rate?
Per Square Foot \$100.00

16a15 What is the lease term?
10 Years 0 Months

16a20 What is the building standard improvements amount per square foot?
\$10.00

16a25 What is the annual interest rate for financing the building standard improvements?
10%

16a30 Are there above standard improvements?
Yes No

16a35 What is the above standard improvements amount per square foot?
\$15.00

16a40 What is the annual interest rate for financing the above standard improvements?
5%

16a45 What is the annual interest rate you are charging the tenant for above standard improvements?
6%

16a50

	Standard Improvements		Above Standard Improvements		Total	
	Lease Term	Annual Per SF	Lease Term	Annual Per SF	Lease Term	Annual Per SF
Rent	\$10,000,000.00	\$100.00	\$199,836.90	\$2.00	\$10,199,836.90	\$102.00
Cost of Improvements	\$100,000.00	\$1.00	\$150,000.00	\$1.50	\$250,000.00	\$2.50
Financing Cost	\$58,580.88	\$0.59	\$40,917.93	\$0.41	\$99,498.81	\$0.99
Income from Lease	\$9,841,419.12	\$98.41	\$8,918.98	\$0.09	\$9,850,338.09	\$98.50
PV of Income from Lease	\$6,205,930.28	\$62.06	\$7,007.44	\$0.07	\$6,212,937.72	\$62.13

clear calculate

FIG. 16b

16b00

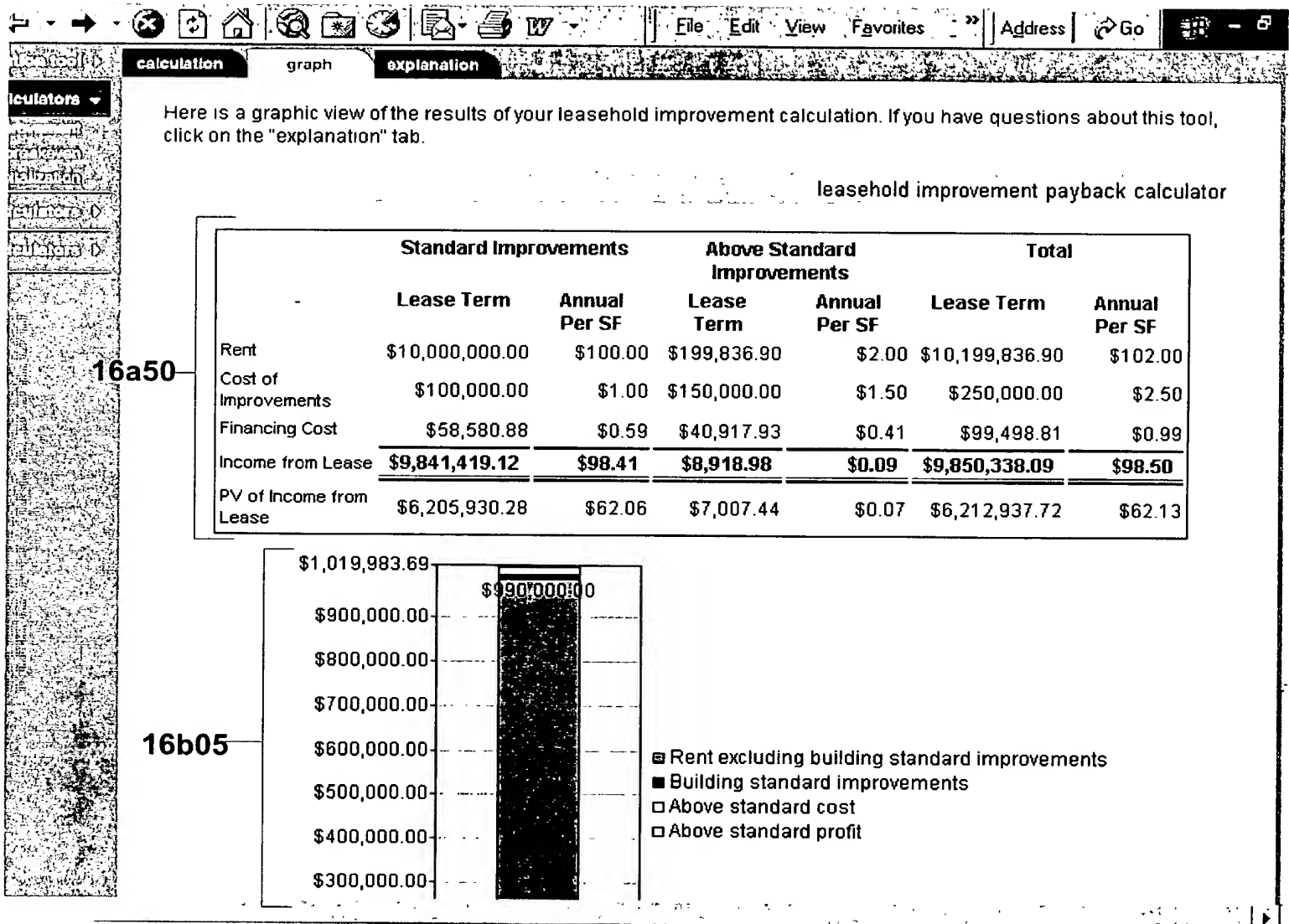


FIG. 16c

16c00

The screenshot displays a web browser window with the address bar showing "http://www.realworkspace.com". The browser's menu bar includes "File", "Edit", "View", and "Favorites". The website header features the "realworkspace" logo and navigation links: "home", "my realworkspace", "research", "services", "financing", "leasing", "tools", and "community". On the right side of the header, there are links for "register", "privacy", "help", and "search". The main content area is titled "Leasehold Improvement Payback Calculator" and includes three tabs: "calculation", "graph", and "explanation". The "calculation" tab is active, showing a text box that reads: "The Leasehold Improvement Payback Calculator calculates the payback and breakeven points when making capital improvements to a property. To use the calculator, click on the 'calculation' tab, fill in the fields on the form, then click 'calculate'." A sidebar on the left contains a "payback calculators" dropdown menu with options: "Leasehold Improvement Payback Calculator", "Mortgage Payback Calculator", and "Rental Income Payback Calculator". The "Leasehold Improvement Payback Calculator" option is selected. The label "16c05" points to the "Leasehold Improvement Payback Calculator" option in the sidebar.

16c05

FIG. 17a

17a00

Internet Explorer Address Bar: File Edit View Favorites Address Go

RealWorkspace

Navigation: home my realworkspace research services financing leasing **tools** community

Left Sidebar: back calculators

Current Loan: current loan new loan results graph explanation

The Refinance / Breakeven Calculator helps you calculate refinance loan savings and breakeven points to determine whether it's worth refinancing in today's market conditions. Enter information about your current loan into the fields below and click "calculate" to display the remaining loan term. Next click the "new loan" tab to enter information about a new loan scenario. If you have questions about this tool, click on the "explanation" tab above.

refinance / breakeven calculator

17a05	What type of mortgage do you have?	Fixed Rate
17a10	What type of amortization are you using?	Full Amortization
17a15	What is the current loan balance?	\$100,000.00
17a20	What annual interest rate are you paying now?	10%
17a25	What is the remaining term?	30 Years
17a30	What is the payment frequency for your current loan?	Monthly
17a35	What is the payment amount for your current loan?	\$1,000.00
17a40	* Calculated remaining term:	216 Months
17a45	What prepay penalties will be paid as a percentage of balance?	1%
17a50	What prepay penalties will be paid as an amount?	\$1,000.00

* The comparison analysis will utilize the calculated remaining term.

clear calculate

FIG. 17b

17b00

current loan new loan **results** graph explanation

payback calculators ▾

The Refinance / Breakeven Calculator helps you calculate refinance loan savings and breakeven points to determine whether it is worth refinancing in today's market conditions. After you've entered information about your existing loan, continue by entering information about a new loan into the fields below. Click "calculate" to display the new payment amount. When you're ready, click on the "results" tab above to display the breakeven point and cumulative savings. To return to the calculation for a current loan, click the "current loan" tab. If you have questions about this tool, click on the "explanation" tab

refinance / breakeven calculator

17b05	What type of mortgage are you considering?	Fixed Rate ▾
17b10	What type of amortization should we use?	Full Amortization ▾
17b15	Current loan balance:	\$100,000.00
17b20	Additional loan amount:	\$100,000.00
17b25	What points and fees as a % are financed?	5%
17b30	What fees as an amount are financed?	\$0.00
17b35	Total new loan amount:	\$205,000.00
17b40	What is the annual interest rate?	7%
17b45	What is the new loan term?	30 Years ▾
17b50	What is the new payment frequency?	Monthly ▾
17b55	Payment:	\$1,363.86
17b60	What points and fees as a % are not financed?	0%
17b65	What fees as an amount are not financed?	\$0.00
17b70	Do you want to calculate a payoff amount?	<input checked="" type="radio"/> Yes <input type="radio"/> No
17b75	How many years do you plan to own the property?	10
17b80	Payoff amount:	\$175,916.02

clear calculate

FIG. 17c

17c00

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current loan new loan results **graph** explanation

Here are the results of your Refinance / Breakeven calculation To see the results in a graphic format, click on the "graph" tab.

refinance / breakeven calculator

Based on the loan term:

Compare	Current Loan	New Loan	Savings/ (Costs)	Present Value
Loan amount	\$100,000.00	\$205,000.00	--	--
Total Payment	\$216,000.00	\$490,989.60	(\$274,989.60)	(\$82,450.24)
Points and Fees Unfinanced	\$2,000.00	\$0.00	\$2,000.00	\$2,000.00
Total Savings:			(\$276,989.60)	(\$84,450.24)
Rate:	10%	7%		
Term:	216 Months (18Years)	360 Months (30Years)		
Payment	\$1,000.00	\$1,363.86	(\$363.86)	

Breakeven

Total Points and Fees Financed. \$10,000.00 -27.48 Payments
Total Points and Fees Unfinanced \$2,000.00 -5.5 Payments

* The calculated remaining term is used in the comparison analysis

Based on the payoff term:

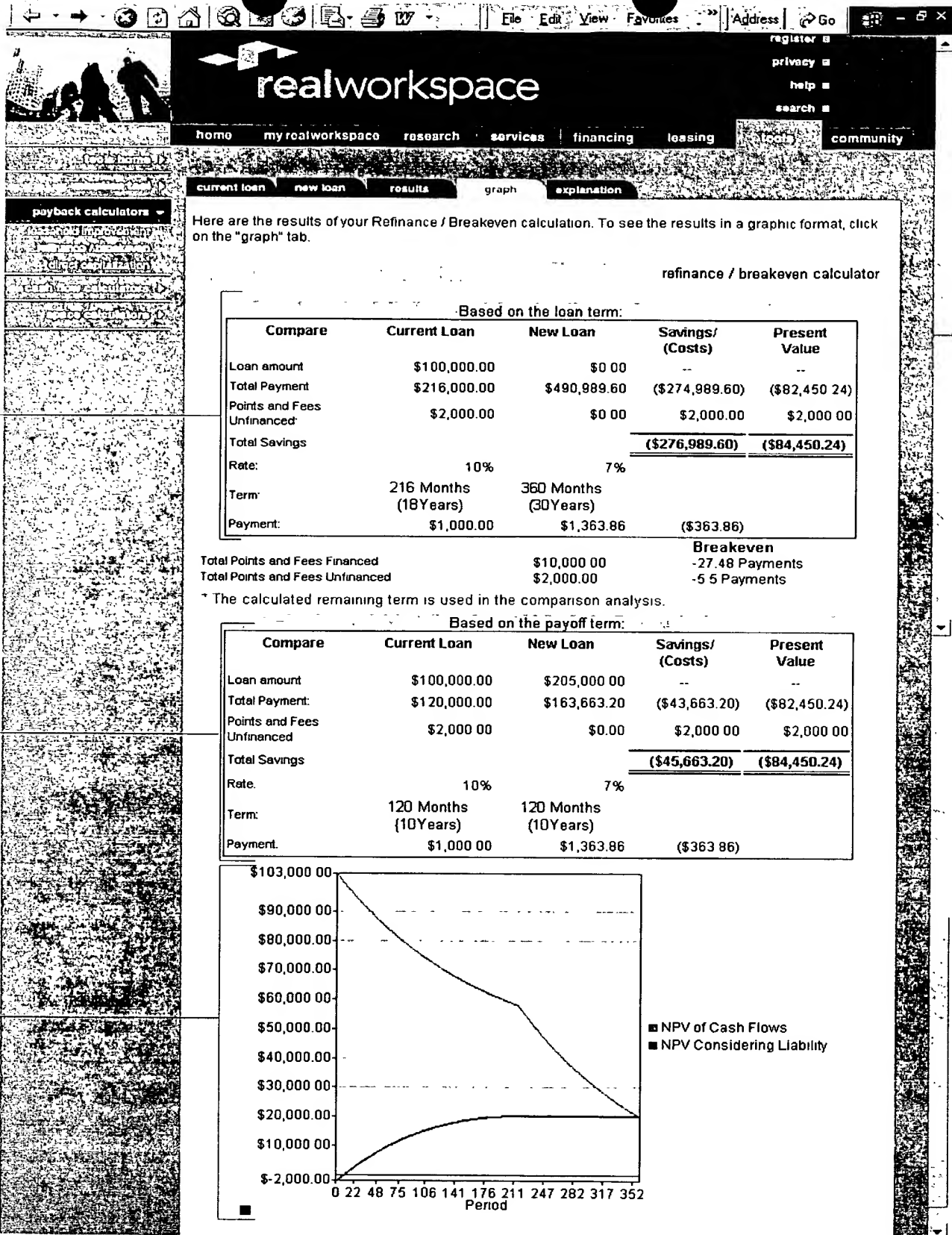
Compare	Current Loan	New Loan	Savings/ (Costs)	Present Value
Loan amount:	\$100,000.00	\$205,000.00	--	--
Total Payment:	\$120,000.00	\$163,663.20	(\$43,663.20)	(\$82,450.24)
Points and Fees Unfinanced	\$2,000.00	\$0.00	\$2,000.00	\$2,000.00
Total Savings:			(\$45,663.20)	(\$84,450.24)
Rate:	10%	7%		
Term:	120 Months (10Years)	120 Months (10Years)		
Payment	\$1,000.00	\$1,363.86	(\$363.86)	

17c05

17c10

FIG. 17d

17d00



17c05

17c10

17d05

FIG. 17e

17e00

17e05

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current loan new loan results graph explanation

payback calculators

Use the Mortgage calculator to enter mortgage data associated with the property. Below, each of the questions on this screen is discussed in detail.

Calculate loan amount, interest rate, payment amount or term. All the fields that appear on the screen are required. The fields that are being calculated for you are shown in red.

note: This calculator assumes monthly compounding. This calculator does not consider private mortgage insurance (PMI), insurance, homeowners costs or tax implications.

What type of mortgage are you considering?

You may choose either of two different types of mortgage rates, variable or fixed

- **Fixed rate:** interest rate remains constant for the term of the loan
- **Variable rate:** interest rate changes over the term of the loan. The calculator assumes that the rate will be based on an index with scheduled rate changes, that is, after a specified number of periods at with a specified number of periods between adjustments. While it is not possible to know what the interest will be after an adjustment, this calculator allows you to simulate scenarios based on your assumptions. For further information, refer to the Variable Rate Loan section below.

FIG. 17e (cont.)

17e00

17e10

17e15

What type of amortization should we use?

This calculator provides the option to consider three types of loan amortization

- **Full Amortization.** loan payments will pay the loan balance in full at the end of the payment term.
- **Balloon:** loan balance will decrease based on the payment; however, the payment will **not** pay the loan balance in full at the end of the loan term. The payment you enter will consist of principal and interest. The calculator will determine the interest portion of the payment based on your input of payment term and the interest rate. A balloon term's payment is calculated as if the loan were to amortize over a longer time period than the length of the loan. The remaining principal is paid off when the balloon matures. For example, the payment is calculated to pay off in 30 years, but the loan is due in 5 years. In a Balloon loan with the balloon payment defined as **percent of loan**, the payment is calculated based on the percentage of the loan balance that is due at maturity. In a Balloon loan with the balloon payment defined as **specified amount**, the payment is calculated based on the remaining loan balance that is due at maturity.
- **Interest Only:** The loan balance will **not** decrease based on the loan payment. The payment pays only the interest due on the loan. At the end of the loan term, the full loan principal amount will be due.

Do you want to calculate a payoff amount?

Enter a payment value, and the calculator will determine the value of the payoff amount

FIG. 17e (cont.)

17e00

		What is the first payment date?
17e20		The information is used on the amortization schedule to provide you with payment dates. This field does not impact the calculations.
17e25		Do you want to calculate the interest rate inclusive of points and fees? Calculate the impact of points and fees as they relate to the interest rate. You may include points as a percentage of the loan and/or as an explicit amount. Points can include origination, discount or buy down. Fees can include appraisal, application, title, or other fees. The interest rate, including points, calculates the final value by reducing the loan amount by the point value and/or other fees. Mortgage Constant is the annual debt service divided by the loan amount. It is an indication of how much principal is being paid in the first year, and as such, is an indicator of how quickly the loan may be paid off. The higher the value of the mortgage constant, the more quickly the loan is being paid off.
17e30		Variable Rate Loans This model assumes that the interest rate adjusts on regularly scheduled basis. How many periods before the first adjustment? Enter the number of periods from the loan date to the first adjustment date. You should refer to the payment frequency when answering this question. For example, if the payment frequency is quarterly and the rate adjusts annually, you enter 4.

FIG. 17e (cont.)

17e00

17e35

How many periods between adjustments?

Enter the number of periods between adjustments.. If the payment frequency is quarterly and the rate adjusts every 2 years, you would enter 8.

17e40

Do you want to use the maximum rate adjustments? (worst-case scenario)

Because of the inability to predict interest rates, this calculator allows you to simulate the maximum rate change for each adjustment date without exceeding the maximum rate allowed for the loan. Deselecting the checkmark displays additional fields for entering assumptions about future interest rate changes

17e45

What is the minimum rate?

The minimum rate is sometimes referred to as the floor. Enter the lowest interest rate that could apply

17e50

What is the initial index value?

Enter the initial rate of the index. Variable rate loans generally base the interest rate on an index like the prime rate of a major bank, for example.

FIG. 17e (cont.)

17e00

17e55

What is the margin?

The margin is the amount that is added to the index to establish the interest rate on each adjustment date. Variable rate loans generally include a margin or some other percentage above the index value.

17e60

What do you predict will be the index change per adjustment?

Enter the percent change that you predict will occur in the index in for the rate. You may enter a negative or a positive change. The calculator will increase the interest rate by this amount for each of the adjustment dates until the rate reaches the maximum or minimum interest rate allowed on the loan.

17e65

Break Even is the point at which the cost of obtaining the new loan has be paid back by the decrease, if any, in the payments. In other words, the number of payments it takes to cover the points and fees you paid to refinance the mortgage.

17e70

Savings/(Cost) is the amount of cash you will pay(cost) or save(savings) based on a comparison between the total payments remaining on the current loan to the total payments on the new loan

17e75

Present value tells you what the future payments are worth as cash today.



FIG. 18b

18b00

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calculation explanation

Use the Direct Capitalization Calculator to determine the value of a property based on its income and a given capitalization rate - or determine the capitalization rate based on its income and a given sales price. To use the calculator, click on the "calculation" tab above and fill in the provided fields.

18b05

FIG. 19a

19a00

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calculation **schedule** summary graph explanation

cash flow calculators

mortgage calculator

This Mortgage Calculator calculates mortgage payments on a fixed or variable commercial loan, as well as the principal and interest payments over the term of the loan. Start by selecting from the pull-downs below. Next, fill in the fields and click "calculate." Select either the "schedule", "summary" or "graph" tabs above to view the results of your calculation. If you have questions about this tool, click on the "explanation" tab.

19a05 ————— What should we calculate? **Payment**

19a10 ————— What type of mortgage are you considering? **Fixed Rate**

19a15 ————— What type of amortization should we use? **Full Amortization**

19a20 ————— What is the loan amount? **\$100,000.00**

19a25 ————— What is the interest rate? **8%**

19a30 ————— What is the loan term? **30** **Years**

19a35 ————— What is the payment frequency? **Monthly**

19a40 ————— What is the first payment date? **December** **2000**

19a45 ————— **Payment:** **\$733.77**

19a50 ————— **Mortgage constant:** **8.80524%**

19a55 ————— **Annual payment:** **\$8,805.24**

19a60 ————— Do you want to calculate a payoff amount? ☒ **Yes** ☐ **No**

19a65 ————— After how many payments should we show payoff? **100**

19a70 ————— **Payoff amount:** **\$90,504.36**

19a75 ————— Do you want to calculate the interest rate inclusive of points and fees? ☒ **Yes** ☐ **No**

19a80 ————— What points and fees will be paid as a percentage? **5%**

19a85 ————— What fees will be paid as an amount? **\$1,000.00**

19a90 ————— **Rate with points included:** **8.66456%**

clear calculate

FIG. 19b

19b00

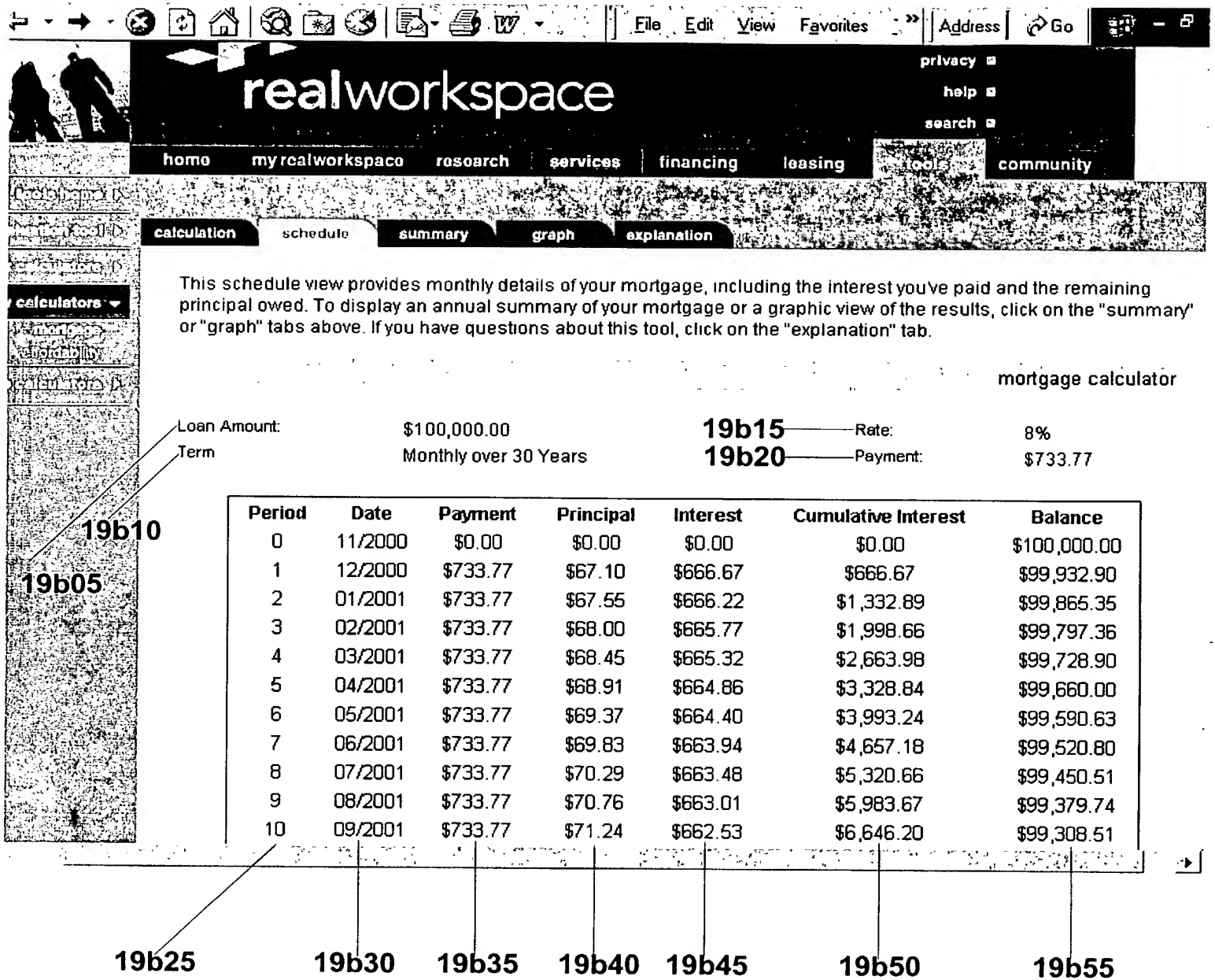


FIG. 19c

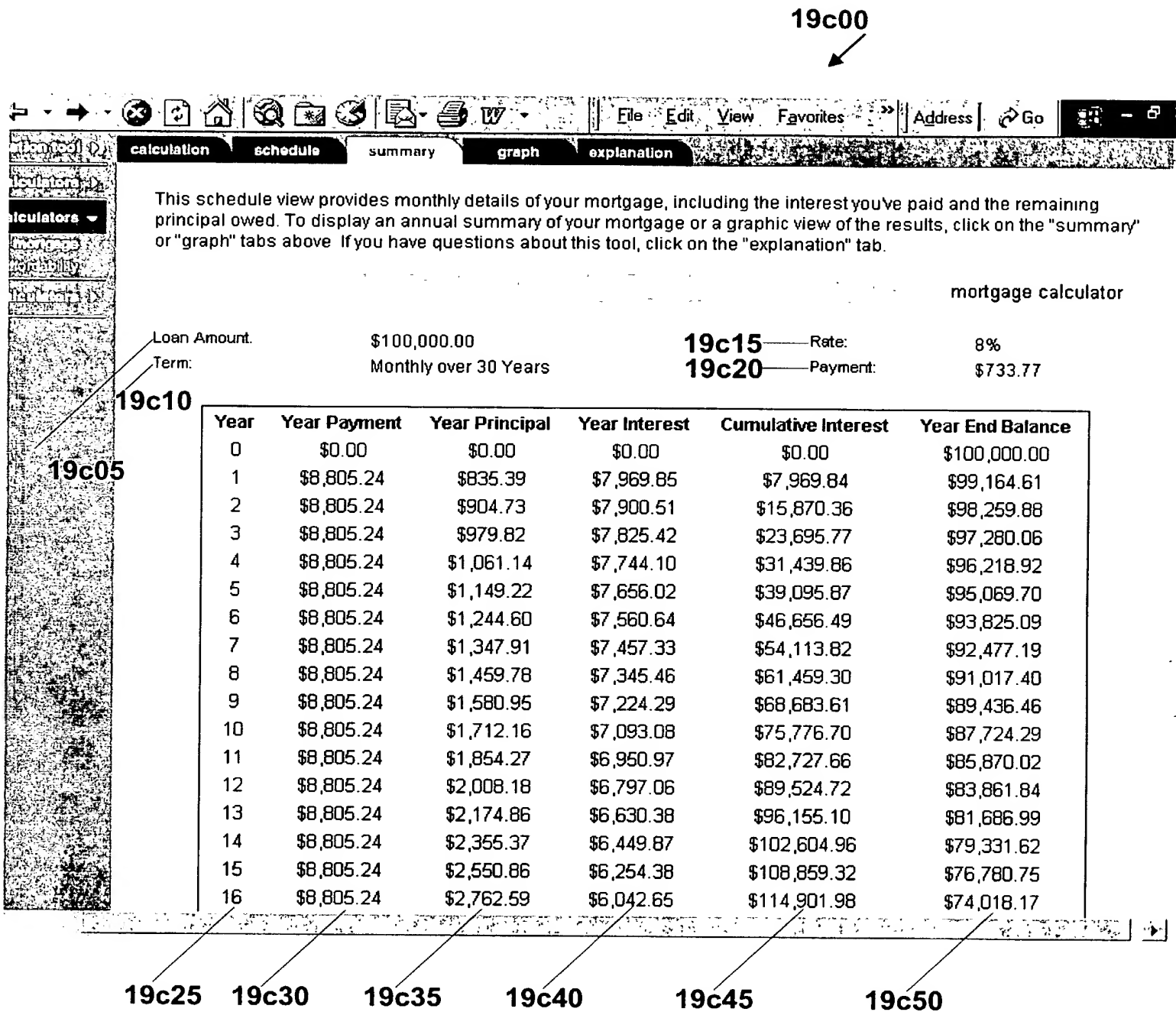


FIG. 19d

19d00

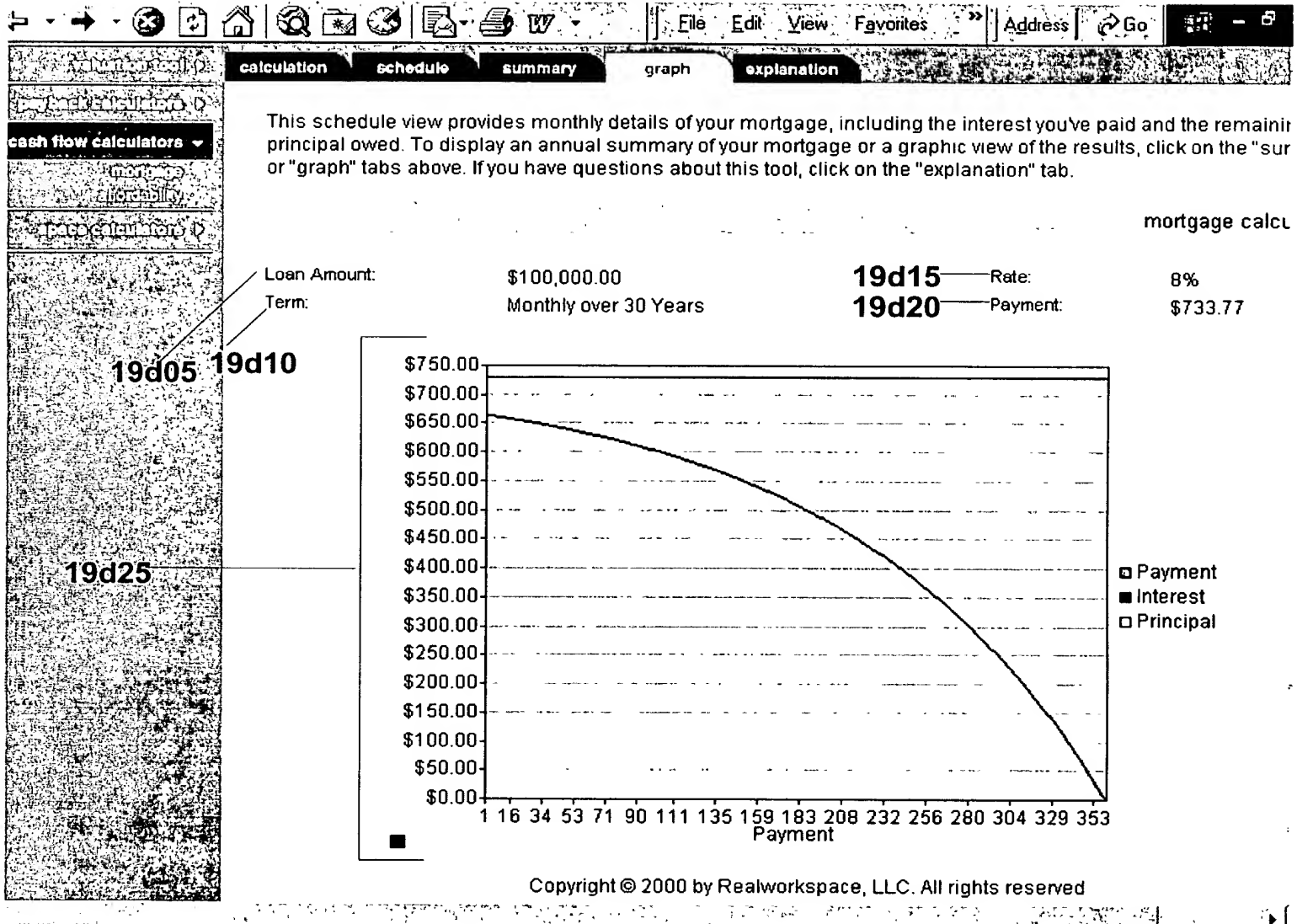


FIG. 19e

19e00



19e01

19e05

19e00

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calculation schedule summary graph explanation

Use the Mortgage calculator to enter mortgage data associated with the property. Below, each of the questions on this screen is discussed in detail.

Calculate loan amount, interest rate, payment amount or term. All the fields that appear on the screen are required. The fields that are being calculated for you are shown in red.

note: *This calculator assumes monthly compounding. This calculator does not consider private mortgage insurance (PMI), insurance, homeowners costs or tax implications.*

What type of mortgage are you considering?

You may choose either of two different types of mortgage rates, variable or fixed.

- **Fixed rate:** interest rate remains constant for the term of the loan
- **Variable rate:** interest rate changes over the term of the loan. The calculator assumes that the rate will be based on an index with scheduled rate changes, that is, after a specified number of periods and with a specified number of periods between adjustments. While it is not possible to know what the interest will be after an adjustment, this calculator allows you to simulate scenarios based on your assumptions. For further information, refer to the Variable Rate Loan section below.

FIG. 19e (cont.)

19e00



19e10

What type of amortization should we use?

This calculator provides the option to consider three types of loan amortization

- **Full Amortization:** loan payments will pay the loan balance in full at the end of the payment term.
- **Balloon.** loan balance will decrease based on the payment; however, the payment will **not** pay the loan balance in full at the end of the loan term. The payment you enter will consist of principal and interest. The calculator will determine the interest portion of the payment based on your input of payment term and the interest rate. A balloon term's payment is calculated as if the loan were to amortize over a longer time period than the length of the loan. The remaining principal is paid off when the balloon matures. For example, the payment is calculated to pay off in 30 years, but the loan is due in 5 years. In a Balloon loan with the balloon payment defined as **percent of loan**, the payment is calculated based on the percentage of the loan balance that is due at maturity. In a Balloon loan with the balloon payment defined as **specified amount**, the payment is calculated based on the remaining loan balance that is due at maturity.
- **Interest Only:** The loan balance will **not** decrease based on the loan payment. The payment pays only the interest due on the loan. At the end of the loan term, the full loan principle amount will be due.

19e15

Do you want to calculate a payoff amount?

Enter a payment value, and the calculator will determine the value of the payoff amount.

FIG. 19e (cont.)

19e00
↙

19e20

What is the first payment date?

The information is used on the amortization schedule to provide you with payment dates. This field does not impact the calculations.

19e25

Do you want to calculate the interest rate inclusive of points and fees?

Calculate the impact of points and fees as they relate to the interest rate. You may include points as a percentage of the loan and/or as an explicit amount. **Points** can include origination, discount or buy down. **Fees** can include appraisal, application, title, or other fees. The interest rate, including points, calculates the final value by reducing the loan amount by the point value and/or other fees.

Mortgage Constant is the annual debt service divided by the loan amount. It is an indication of how much principal is being paid in the first year, and as such, is an indicator of how quickly the loan may be paid off. The higher the value of the mortgage constant, the more quickly the loan is being paid off.

19e30

Variable Rate Loans

This model assumes that the interest rate adjusts on regularly scheduled basis.

How many periods before the first adjustment?

Enter the number of periods from the loan date to the first adjustment date. You should refer to the payment frequency when answering this question. For example, if the payment frequency is quarterly and the rate adjusts annually, you enter 4.

FIG. 19e *(cont.)*

19e00

How many periods between adjustments?

19e35 Enter the number of periods between adjustments.. If the payment frequency is quarterly and the rate adjusts every 2 years, you would enter 8.

Do you want to use the maximum rate adjustments? (worst-case scenario)

19e40 Because of the inability to predict interest rates, this calculator allows you to simulate the maximum rate change for each adjustment date without exceeding the maximum rate allowed for the loan. Deselecting the checkmark displays additional fields for entering assumptions about future interest rate changes.

What is the minimum rate?

19e45 The minimum rate is sometimes referred to as the floor. Enter the lowest interest rate that could apply.

What is the initial index value?

19e50 Enter the initial rate of the index. Variable rate loans generally base the interest rate on an index like the prime rate of a major bank, for example.

FIG. 19e *(cont.)*

19e00

	<p>What is the minimum rate?</p> <p>The minimum rate is sometimes referred to as the floor. Enter the lowest interest rate that could apply.</p>
	<p>What is the initial index value?</p> <p>Enter the initial rate of the index. Variable rate loans generally base the interest rate on an index like the prime rate of a major bank, for example.</p>
19e55	<p>What is the margin?</p> <p>The margin is the amount that is added to the index to establish the interest rate on each adjustment date. Variable rate loans generally include a margin or some other percentage above the index value.</p>
19e60	<p>What do you predict will be the index change per adjustment?</p> <p>Enter the percent change that you predict will occur in the index in for the rate. You may enter a negative or a positive change. The calculator will increase the interest rate by this amount for each of the adjustment dates until the rate reaches the maximum or minimum interest rate allowed on the loan.</p>

FIG. 20a

20a00

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cash flow calculators
mortgage calculators

calculation **explanation**

This Affordability Calculator will help you determine the size of the commercial real estate loan you can afford by calculating the loan amount based on Net Operating Income (NOI) and basic underwriting criteria. Start by selecting the property type you are interested in below. Next, enter your information into the appropriate fields, then click "calculate" for the results. If you have questions about this tool, click on the "explanation" tab.

affordability calculator

Calculation

Enter one of the inputs below, and the remaining fields will be calculated based on the assumptions.

20a05 Property Type **Office**

20a10 Annual Net Operating Income **\$4,634.63**

20a15 Annual Debt Service **\$3,862.19**

20a20 Loan Amount **\$40,000.00**

20a25 Property Value Required **\$50,000.00**

20a30 Capitalization Rate (NOI/Property Value) **9.26925%**

clear calculate

Assumptions

20a35 Debt Service Coverage **1.2**

20a40 Payment Frequency **Monthly**

20a45 Loan Term **30** **Years**

20a50 Interest Rate **9%**

20a55 Loan-to-Value Ratio **80%**

[Click here for current market rates and ratios](#)

clear

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FIG. 20b

20b00

The screenshot shows a web browser window with the address bar displaying "realworkspace". The browser's menu bar includes "File", "Edit", "View", and "Favorites". The website's navigation bar contains links for "home", "my realworkspace", "research", "services", "financing", "leasing", "tools", and "community". The "tools" link is highlighted. On the left side, a sidebar menu lists various calculators: "cash flow calculators", "debt service coverage", "debt service coverage", "debt service coverage", and "debt service coverage". The main content area is titled "calculation" and "explanation". The "calculation" tab is active, displaying the question: "What is the loan amount that a property could support based on Net Operating Income (NOI) and basic underwriting assumptions?". Below this, a paragraph explains: "The Affordability Calculator allows you to match underwriting assumptions with your property performance as measured, for example, by net operating income. If you enter one performance measurement, the system will calculate the other performance requirements based on the underwriting assumptions that you have entered." The "explanation" tab is also visible, showing the heading "Debt Service Coverage:" followed by a definition: "Debt Service Coverage is the amount by which your income exceeds your debt payment. For example if your annual income is \$1,200 and the debt service coverage is 1.2%, then your annual debt payment can be up to \$1,000.00." At the bottom, a note states: "Annual debt service is a term sometimes used to describe annual debt payment."

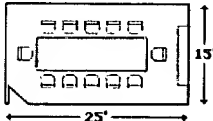

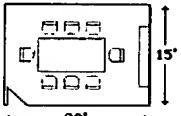
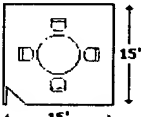
20b05

20b10

FIG. 21a (cont.)

21a00

Do you want to include Conference Rooms in your estimate? ☒ Yes ☐ No — **21a15**

Conference Rooms		Fill in the total number of Conference Rooms required.			
Description		Length (feet)	Width (feet)	Total S.F.	Capacity
Board Room		25 ft	x 15 ft	= 375 sqft	12
Large Conference Room		20 ft	x 20 ft	= 400 sqft	10
Small Conference Room		20 ft	x 15 ft	= 300 sqft	8
Small Meeting Room		15 ft	x 15 ft	= 225 sqft	4
					Total Units

Do you want to include Support Common Areas in your estimate? ☒ Yes ☐ No — **21a20**

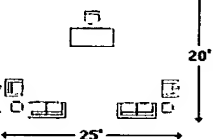
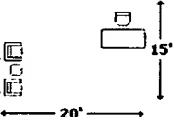
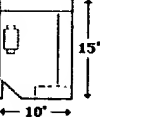
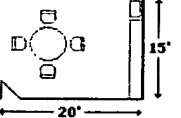
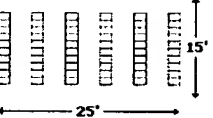



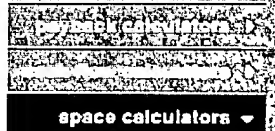
Support Common Areas		Fill in the total number of Support Common Areas required.			
Description		Length (feet)	Width (feet)	Total S.F.	Capacity
Large Reception Area		25 ft	x 20 ft	= 500 sqft	
Small Reception Area		20 ft	x 15 ft	= 300 sqft	
Print/Copy Room		10 ft	x 15 ft	= 150 sqft	
Break Room		20 ft	x 15 ft	= 300 sqft	
Library/File Storage		25 ft	x 15 ft	= 375 sqft	
Equipment Room		10 ft	x 15 ft	= 150 sqft	
Training Room		20 ft	x 20 ft	= 400 sqft	10
Mail Room		20 ft	x 15 ft	= 300 sqft	
					Total Units

FIG. 21a

1a00



To determine your office space needs, enter the number of offices, cubicles, meeting rooms and common areas in the fields below. You can plan for future growth as well - simply list the number of years you plan to occupy this space. If you have questions about this tool, click on the "explanation" tab.

space calculator

Do you want to include Offices in your estimate? ☒ Yes ☐ No **21a05**

Offices

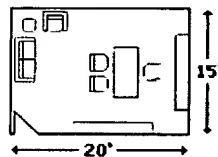
Fill in the total number of Offices required.

Description

Length x Width = Total S.F.

(feet) (feet)

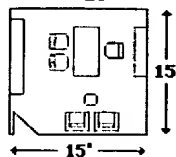
CEO



20 ft x 15 ft = 300 sqft

Total Units

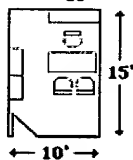
Partner



15 ft x 15 ft = 225 sqft

Total Units

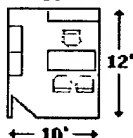
Director



10 ft x 15 ft = 150 sqft

Total Units

Manager



10 ft x 12 ft = 120 sqft

Total Units

Do you want to include Cubicles in your estimate? ☒ Yes ☐ No **21a10**

Cubicles

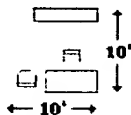
Fill in the total number of Cubicles required.

Description

Length x Width = Total S.F.

(feet) (feet)

Supervisor



10 ft x 10 ft = 100 sqft

Total Units

Large Cube



8 ft x 8 ft = 64 sqft

Total Units

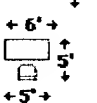
Medium Cube



6 ft x 8 ft = 48 sqft

Total Units

Small Cube



5 ft x 5 ft = 25 sqft

Total Units

FIG. 21a (cont.)

21a00



21a25	Circulation and Add-On Factors	
	Circulation Area	<input type="text" value="30%"/>
21a30	Add-On Factor	<input type="text" value="15%"/>
	Space Planning Hints <ul style="list-style-type: none">• The hallways between offices, workstations, etc. • Typically adds 25 % to 55 %.• Common Areas used by all building tenants including lobbies, corridors, restrooms, service facilities, etc. • Typically adds 0 % to 50 %	
Future Growth Assumptions		
Number of growth years to include in your estimate?		<input type="text" value="0"/>
		clear calculate
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FIG. 21b

21b00

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Future Growth Assumptions

Number of growth years to include in your estimate? [Update](#)

Year	Growth Rate (%)	Growth Rate <input type="text" value="0%"/>
1	<input type="text" value="5%"/>	Apply down
2	<input type="text" value="5%"/>	Apply down
3	<input type="text" value="5%"/>	Apply down
4	<input type="text" value="0%"/>	Apply down
5	<input type="text" value="0%"/>	Apply down
6	<input type="text" value="0%"/>	Apply down
7	<input type="text" value="0%"/>	Apply down
8	<input type="text" value="0%"/>	Apply down
9	<input type="text" value="0%"/>	Apply down
10	<input type="text" value="0%"/>	Apply down

[clear](#) [calculate](#)

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FIG. 21c

21c00

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my realworkspace

research

services

financing

leasing

tools

community

calculation

summary

graph

explanation

Here are the results of your space planning calculation. For a graphic view, click on "graph" above. If you have questions about this tool, click on the "explanation" tab.

space calculators

space calculator

Quantity	Space Description	Sq. Ft per Unit	Total Space
Offices			
10	CEO	300 sqft	3,000 sqft
0	Partner	225 sqft	0 sqft
0	Director	150 sqft	0 sqft
0	Manager	120 sqft	0 sqft
Subtotal			3,000 sqft
Cubicles			
0	Supervisor	100 sqft	0 sqft
10	Large Cube	64 sqft	640 sqft
0	Medium Cube	48 sqft	0 sqft
0	Small Cube	25 sqft	0 sqft
Subtotal			640 sqft
Conference Rooms			
10	Board Room	375 sqft	3,750 sqft
0	Large Conference Room	400 sqft	0 sqft
0	Small Conference Room	300 sqft	0 sqft
0	Small Meeting Room	225 sqft	0 sqft
Subtotal			3,750 sqft
Support Common Areas			
10	Large Reception Area	500 sqft	5,000 sqft
0	Small Reception Area	300 sqft	0 sqft
0	Print/Copy Room	150 sqft	0 sqft
0	Break Room	300 sqft	0 sqft
0	Library/File Storage	375 sqft	0 sqft
0	Equipment Room	150 sqft	0 sqft
0	Training Room	400 sqft	0 sqft
0	Mail Room	300 sqft	0 sqft
Subtotal			5,000 sqft
Subtotal for All Areas			12,390 sqft
Circulation Area		30%	3,717 sqft
Total Usable Square Feet			16,107 sqft
Add-On Factor		15%	2,416 sqft
Total Rentable Square Feet			18,523 sqft
Total Space Required over Lease Term			18,523 sqft

21c05

21c10

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21c05

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21c20

21c25

FIG. 21d

21d00

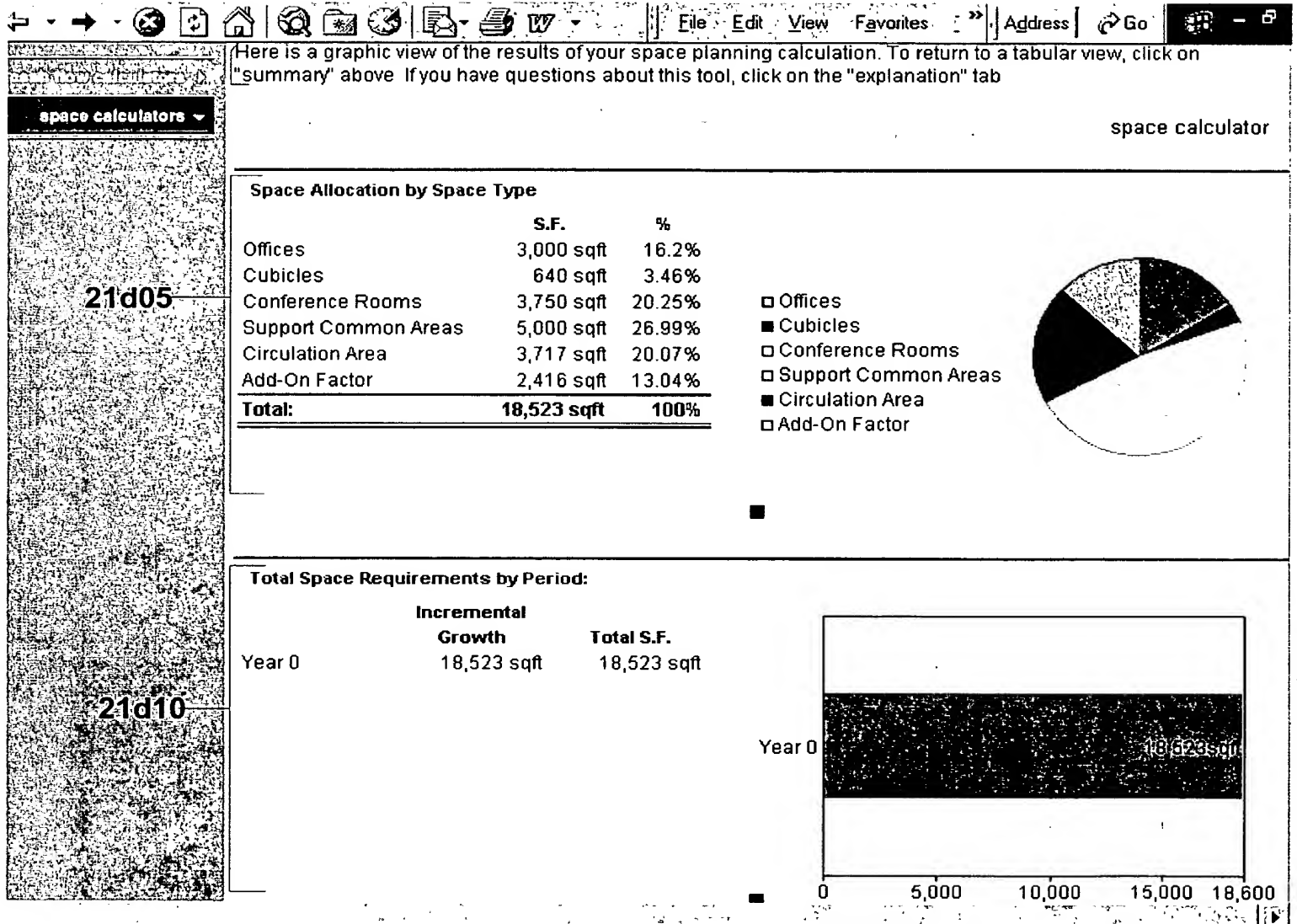


FIG. 21e

21e00

The screenshot shows a web browser window with the realworkspace website. The browser's address bar shows a URL starting with 'http://'. The website has a dark header with the 'realworkspace' logo and navigation links: 'home', 'my realworkspaco', 'research', 'services', 'financing', 'leasing', 'tools', and 'community'. On the right side of the header, there are links for 'register', 'privacy', 'help', and 'search'. Below the header, there is a sub-navigation bar with tabs: 'calculation', 'summary', 'graph', and 'explanation'. The main content area features a large heading: 'Need more office space? Try this Tenant Space Planning Calculator to quantify your space requirement.' Below this heading, there is a paragraph: 'This calculator provides sample configurations for different space requirements. Add circulation area and common area requirements to get a more accurate estimate of your space needs.' and another paragraph: 'Additionally, the calculator assists you in estimating your requirements for future growth.'

21e05